

West Oakland EJ Diesel Emissions Reduction Campaign 2004

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Clearing the Air

Reducing Diesel Pollution in West Oakland

A West Oakland Environmental Indicators Project Report
by the Pacific Institute
In conjunction with the Coalition for West Oakland Revitalization
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Introduction

- Coalition for West Oakland Revitalization
- Environmental Indicators Project
- Background
- Diesel Emissions Reduction Campaign
- Using GIS as a tool to enhance the Campaign

The Diesel Campaign

- Inventory of Sources
- Health Impacts of Diesel Particulates
- Truck Idling (target)
- Participatory Action Research
- Truck Counting Study
- Community Recommendations
- Next Steps
- Acknowledgements

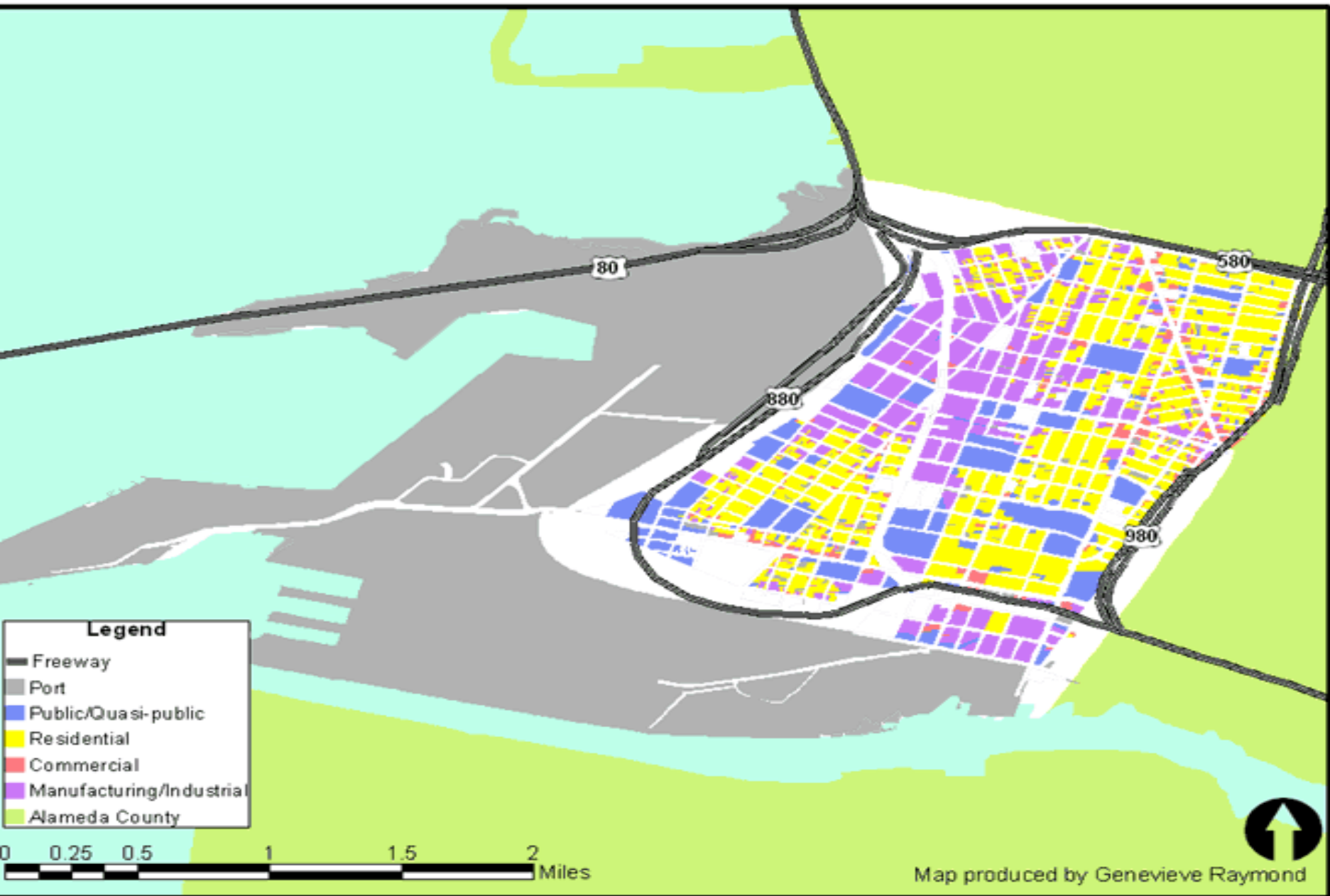
Back Ground

- West Oakland is the oldest district in Oakland with a population of 23,475 residents (US Census, 2000).
- The last stop on the transcontinental railroad, the area quickly became a diverse and vibrant working class community. By the early part of the century, West Oakland became a predominantly African American neighborhood and a center of culture and social activism. After World War II, urban renewal and freeway construction began to fracture the community and dampen commercial activity.
- More recently, the presence of the Port of Oakland, the former Army Base, and heavy industrial activity have made West Oakland one of the most environmentally contaminated neighborhoods in Oakland and even in the Bay Area. (Genevieve Raymond)

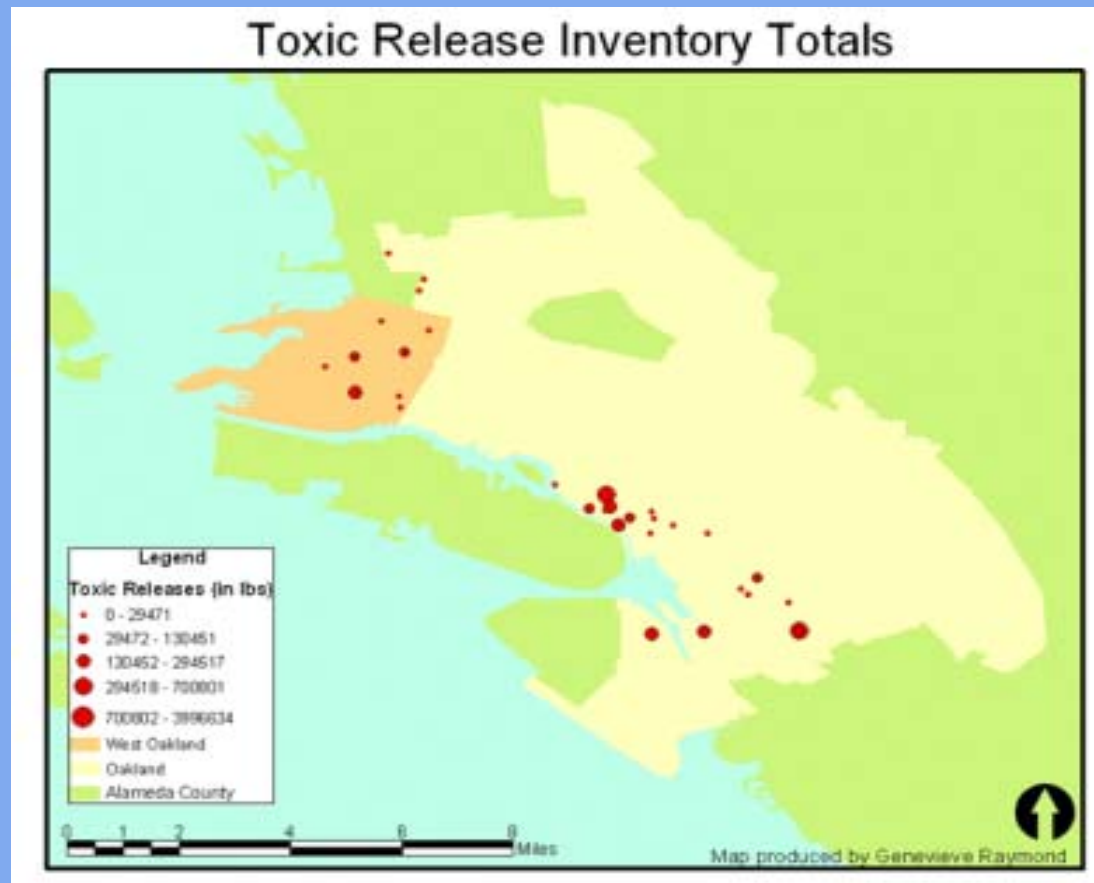
The public must participate in policy decisions about diesel pollution.



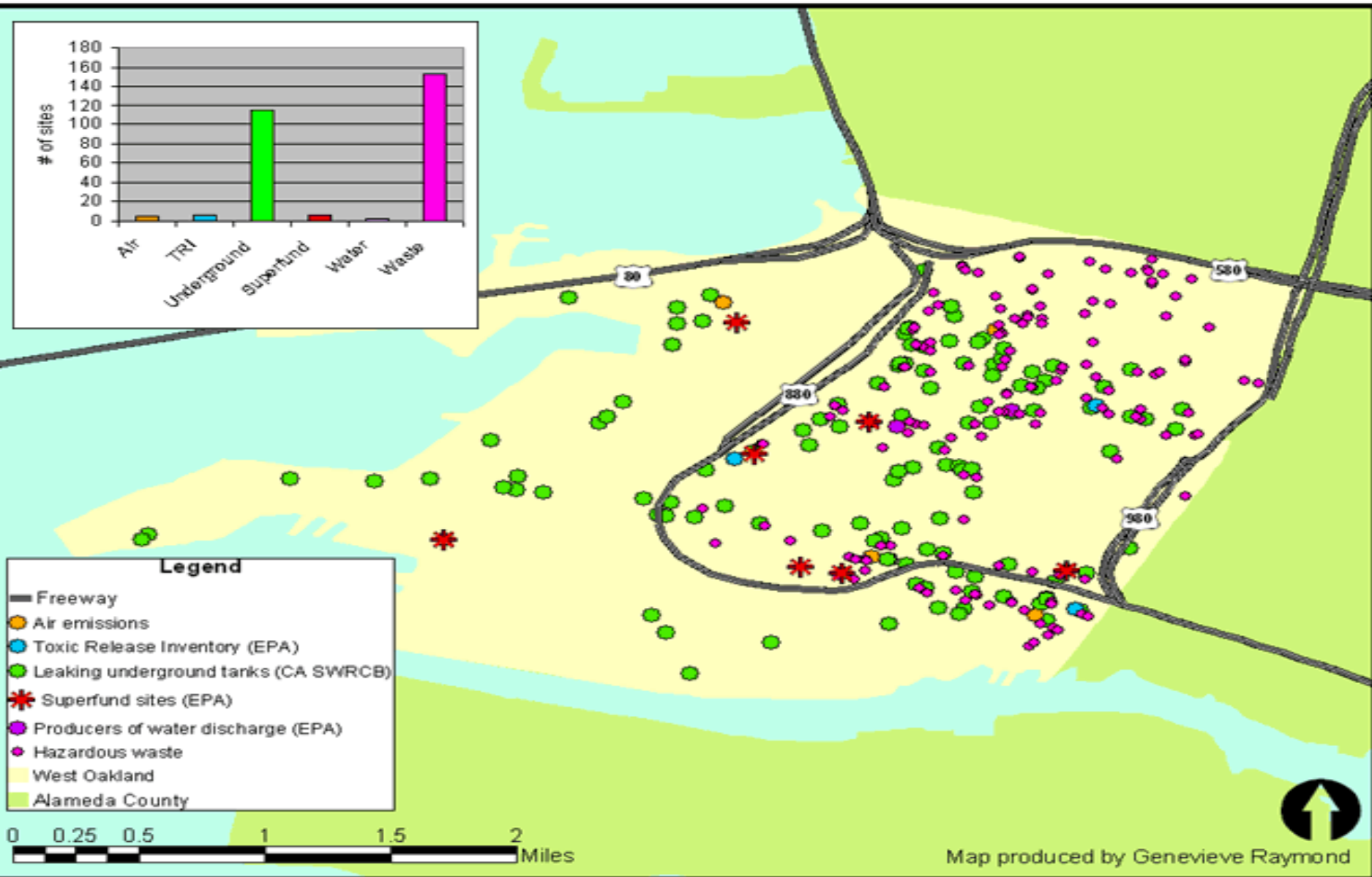
Land Uses in West Oakland



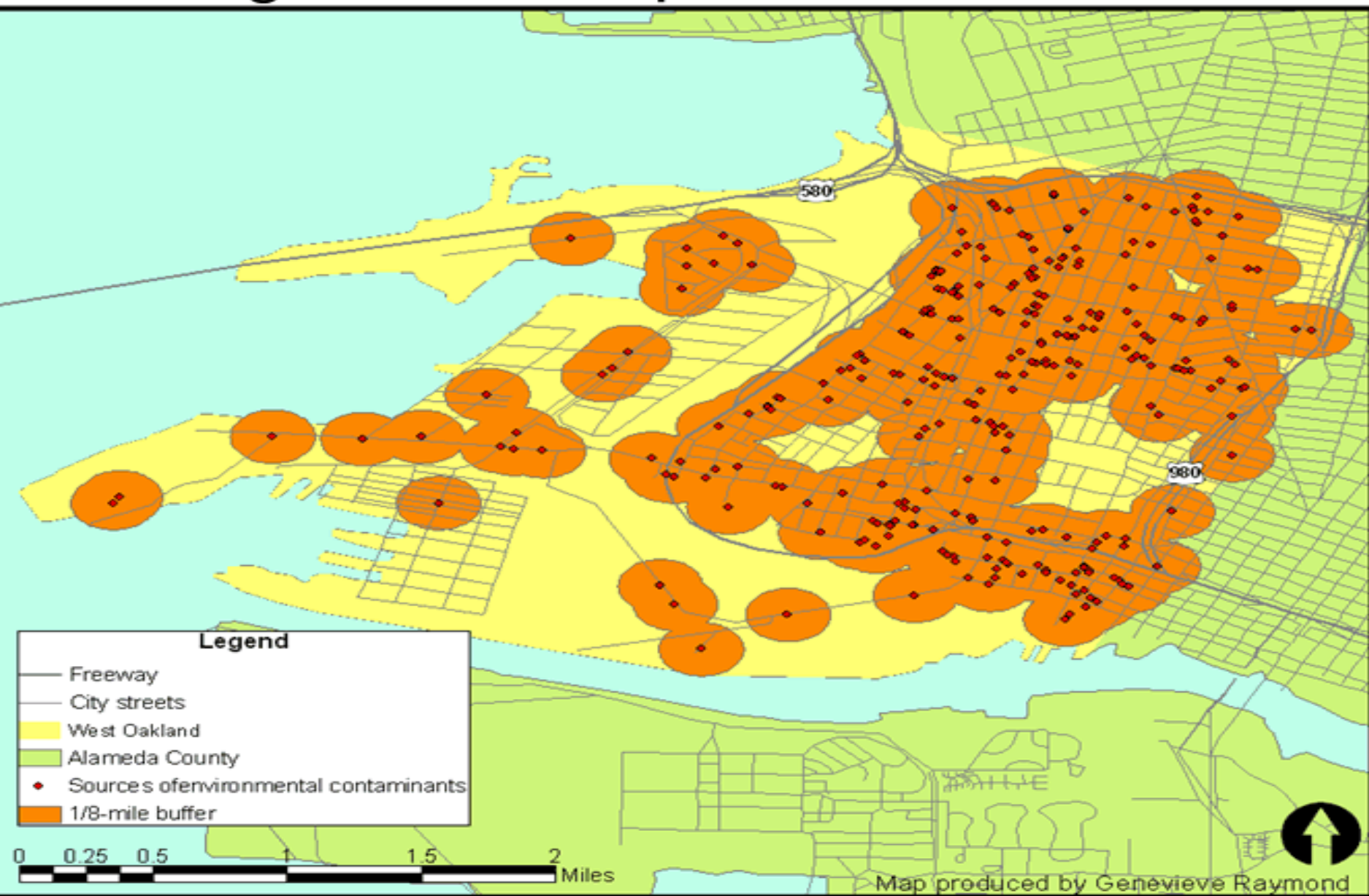
Toxic Release Inventory



Contamination Sources in West Oakland



Neighborhood Exposure to Toxins



Air Pollution Basics

- Criteria air pollutants
- Toxic air contaminants



Diesel Exhaust Particulate was selected because:

- Evidence of enhanced allergic response (immunotoxicity a concern for children);
- Evidence of respiratory health impacts in traffic studies;
- Component of PM10, PM10 effects on asthma and infant/child morbidity/mortality;
- Contains PAHs;
- Higher particle dose per lung SA in kids.



Office of Environmental Health Hazard Assessment

Diesel Exhaust -

Chronic Non-Cancer Effects

- **Human health effects**
 - some occupational exposure studies report respiratory effects.
 - human exposure studies show lung inflammation.
 - many studies show co-exposure to diesel particles and allergen enhances allergic response.
 - Traffic studies associate wheeze/chronic bronchitis with black smoke measurements, truck traffic.
- Inflammatory, histological changes in the rat lung reported above chronic exposure to $460 \mu\text{g}/\text{m}^3$.

Particulate Pollution Health Effects

- Hundreds of studies link PM (10, 2.5) to:
 - cardiovascular and pulmonary morbidity and mortality in adults.
 - increased asthma symptoms, med use
 - school absenteeism
- Several studies link PM to infant/child mortality (highly polluted cities)
- Few studies link PM to low birth weight

Diesel Truck Counts: Findings

- 290 of 500 truck trips are container trucks going to West Oakland daily. Why?
 - Fuel, truck repair, food & beverage, overnight parking
 - These services are not provided at the Port of Oakland



Diesel Truck Counts: Findings

- Data not comprehensive; intended as a snapshot
- Estimated counts from up to 3 days observation
 - 500 trucks trips/day to WO businesses
 - 40 container truck trips/day – prohibited streets



Diesel Truck Idling Study: Findings

- More idling inside terminal gates
- Idling inside gates was not measured
- Estimated total idling: 1.5 hrs/truck
 - Inside/outside terminal gates
 - General observation: 0.5 to 4hrs



Recommendation: Reduce Truck Traffic

- Create Port truck stops
 - Fuel, truck repair, food & beverage, and overnight parking
 - Offer move of West Oakland truck services
 - Land availability issues
 - Proposal: Consortium with AB Trucking, Synchronet Marine

Recommendation: Reduce Truck Emissions

- Implement a Port incentive program
 - technologies not recommended
 - DPFs/DOC designed for ULSD
 - DOC: verified on limited engines
 - ULSD/biodiesel(20): small reductions
 - Diesel emulsion: engine compatibility
 - E-diesel: engine compatibility, safety
 - Synthetic diesel/E-diesel: N/A



Recommendation: Reduce Truck Emissions

- Regulate idling inside terminal gates
 - AB 2650 not applied inside terminal gates
 - Total idling up to 4 hrs/truck, 3.5 hrs inside
 - BAAQMD regulate idling by permit, limiting trucks or requiring emission control

What can be done?

- Organize
- Educate
- Advocate



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